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Date: November 20, 2006

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of:

Applicant(s): George D. Blankenship *et al.*

Serial No: 09/838,970

Filing Date: April 20, 2001

Examiner: Nacem U. Haq

Art Unit: 3625

Title: SYSTEM AND METHOD FOR MANAGING WELDING CONSUMABLES

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

REPLY TO NOTIFICATION OF NON-COMPLIANT APPEAL BRIEF

Dear Sir:

Appellants' representative submits this brief in connection with an appeal of the above identified application. This brief is intended to replace the previous Appeal Brief submitted July 25, 2006. In the event any additional fees may be due and/or are not covered by the credit card, the Commissioner is authorized to charge such fees to Deposit Account No. 50-1063 [LINCP105US].

I. Real Party in Interest (37 C.F.R. §41.37(c)(1)(i))

The real party in interest in the present appeal is Lincoln Global, Inc., the assignee of the present application.

II. Related Appeals and Interferences (37 C.F.R. § 41.37(c)(1)(ii))

Appellants', appellants' legal representatives, and/or the assignee of the present application are unaware of any appeals or interferences which will directly affect, or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. Status of Claims (37 C.F.R. § 41.37(c)(1)(iii))

Claims 1-57 stand rejected by the Examiner. The rejection of claims 1-57 is being appealed.

IV. Status of Amendments (37 C.F.R. § 41.37(c)(1)(iv))

No amendments have been entered after the Final Office Action.

V. Summary of Claimed Subject Matter (37 C.F.R. § 41.37(c)(1)(v))**A. Independent Claim 1**

Independent claim 1 recites a system for managing welding consumable(s), comprising: a welder comprising a consumable(s) monitor (*see e.g.*, pg. 10, line 23-pg. 11, line 2; elements 310, 340) that transmits welding consumable(s) information; and a remote system that interfaces to the welder *via* a computer network (*see e.g.*, pg. 11, line 3; elements 320, 330), the remote system facilitates management of welding consumable(s) for the welder based at least in part upon information received from the consumable(s) monitor. (*See also*, pg. 6, line 19 – pg. 13, line 3; pg. 16, line 13 – pg. 19, line 18; FIGS. 1-3, 7, illustrating various aspects).

B. Dependant Claim 2

Dependent claim 2 recites the system of claim 1, the remote system facilitates ordering and/or purchasing of a consumable based at least in part upon information received from the

consumable(s) monitor. (*See e.g.*, pg. 8, ll. 20-30; pg. 13, ll. 17-26; pg. 17, ll. 1-18; pg. 19, ll. 1-18; FIGS. 1-4, 7).

C. Independent Claim 21

Independent claim 21 recites a system for managing welding consumable(s), comprising: a welder comprising a consumable(s) monitor that sends welding consumable(s) information (*see e.g.*, pg. 6, ll. 20-28; elements 110, 120); and a local system operatively coupled to the welder *via* a first computer network (*see e.g.*, pg. 6, ll. 29-30, elements 120, 170), the local system facilitates management of welding consumable(s) for the welder based at least in part upon information received from the consumable(s) monitor. (*See also*, pg. 6, line 19 – pg. 10, line 22; pg. 16, line 13 – pg. 19, line 18; FIGS. 1-2, 7, illustrating various aspects).

D. Dependant Claim 22

Dependent claim 22 recites the system of claim 21, further comprising a remote system operatively coupled to the local system *via* a second computer network, the remote system facilitates management of welding consumable(s) for the welder. (*See e.g.*, pg. 6, line 29 – pg. 9, line 6; pg. 9, line 16 – pg. 10, line 23; pg. 11, ll. 3-20; pg. 16, line 13 – pg. 19, line 18; FIGS. 1-3, 7).

E. Dependant Claim 24

Dependent claim 24 recites the system of claim 22, the local system initiates orders from the remote system based at least in part upon information received from the consumable(s) monitor. (*See e.g.*, pg. 8, ll. 20-30; pg. 13, ll. 17-26; pg. 17, ll. 1-18; pg. 19, ll. 1-18; FIGS. 1-4, 7).

F. Independent Claim 37

Independent claim 37 recites a system for managing welding consumable(s), comprising: means for interfacing a welder with a consumable(s) monitor that monitors the consumable(s) usage of the welder (*see e.g.*, pg. 6, ll. 19-28; pg. 9, ll. 7-15; pg. 10, line 23– pg. 11, line 2; pg. 16, ll. 13-21; FIGS. 1-3, 7); means for interfacing the consumable(s) monitor with a remote system (*see e.g.*, pg. 6, line 29 – pg. 9, line 6; pg. 9, line 16 – pg. 10, line 23; pg. 11, ll. 3-20; pg.

16, line 13 – pg. 19, line 18; FIGS. 1-3, 7); means for determining ordering levels for a consumable (*see e.g.*, pg. 6, ll. 19-28; pg. 7, line 10 – pg. 11, line 20; pg. 11, line 27 – pg. 16, line 12; 1-5); and means for ordering a consumable based at least in part upon the monitored consumable usage (*see e.g.*, pg. 8, line 20 – pg. 9, line 6; pg. 13, ll. 17-26; pg. 15, ll. 14-24; pg. 16, ll. 7-12; pg. 16, line 22 – pg. 19, line 18; FIGS. 1, 2, 4-7).

The aforementioned means for limitations are identified as claim elements subject to the provisions of 35 U.S.C. §112 ¶6. The corresponding structures are identified with reference to the specification and drawings in the parentheticals above corresponding to those claim elements.

G. Independent Claim 38

Independent claim 38 recites a system for managing welding consumable(s), comprising: a consumable monitor component that monitors consumable usage and/or consumable status of a welder (*see e.g.*, pg. 13, ll. 5-7, element 410); a customer component that interfaces the consumable monitor to facilitate welding resource management based at least in part upon information regarding consumable usage and/or consumable status received from the consumable monitor component (*see e.g.*, pg. 13, ll. 7-9, element 420); and a supplier component that receives information from the customer component to facilitate purchasing and/or ordering of welding consumable(s) (*see e.g.*, pg. 13, ll. 9-11, element 430). (*See also*, pg. 6, line 5 – pg. 9, line 6; pg. 9, line 23 – pg. 10, line 3; pg. 13, line 4 – pg. 16, line 12; FIGS. 1-2, 4-6, illustrating various aspects).

H. Independent Claim 43

Independent claim 43 recites a system for managing welding consumable(s), comprising: a consumable monitor component (*see e.g.*, pg. 16, ll. 18-21, element 720) that monitors consumable usage and/or consumable status of a welder; an aggregation component (*see e.g.*, pg. 16, ll. 22-24, element 730) for aggregating consumable usage that receives welding information from the consumable monitor; an inventory replenishment component (*see e.g.*, pg. 17, ll. 1-4, element 750) that receives information from the aggregation component; a procurement management component (*see e.g.*, pg. 17, ll. 1-4, element 765) that receives information from the aggregation component and to determine, at least based in part upon inventory data, forecast data

and/or information associated with a vendor managed replenishment contract, whether to initiate reordering of the consumable; a reorder proposal component (*see e.g.*, pg. 17, ll. 1-4, element 770) for generating a reorder proposal once the procurement management component has initiated reordering of the consumable; an authorization component (*see e.g.*, pg. 17, ll. 1-4, element 775) that receives authorization for the reorder proposal received from the reorder proposal component; a reorder transmittal component (*see e.g.*, pg. 17, ll. 1-4, element 780) for transmitting a consumable reorder; and a supplier component (*see e.g.*, pg. 17, ll. 1-4, element 785) that receives the consumable reorder to facilitate purchasing and/or ordering of welding consumable(s).

I. Independent Claim 45

Independent claim 45 recites a method for managing welding consumable(s), comprising: receiving information from a consumable(s) monitor *via* a computer network regarding consumable usage of a welder (*see e.g.*, pg. 20, ll. 1-2, item 810); determining whether supply of a welding consumable has fallen below ordering threshold (*see e.g.*, pg. 20, ll. 6-10, item 830); and ordering the welding consumable based at least in part upon the information received regarding the consumable usage (*see e.g.*, pg. 20, ll. 12-14, item 870).

J. Independent Claim 48

Independent claim 48 recites a method for managing welding consumable(s), comprising: receiving information from a consumable(s) monitor associated with a welder *via* a computer network regarding welding consumable usage (*see e.g.*, pg. 20, ll. 17-18, item 910); and invoicing a customer for the welding consumable based at least in part upon the information received regarding the consumable usage (*see e.g.*, pg. 20, ll. 18-28; item 920).

K. Independent Claim 49

Independent claim 49 recites a method for managing welding consumable(s), comprising: receiving information from a monitor that evaluates consumable(s) related to a welder *via* a computer network regarding consumable usage (*see e.g.*, pg. 20, line 30 – pg. 21, line 1, item 1010); receiving information regarding weld quality (*see e.g.*, pg. 21, ll. 1-2, item 1020); and

invoicing a customer for the consumable based at least in part upon the information received regarding the consumable usage and the weld quality (*see e.g.*, pg. 21, ll. 2-3, item 1030).

L. Independent Claim 50

Independent claim 50 recites a method for managing welding consumable(s), comprising: receiving information from a consumable(s) monitor associated with a welder *via* a computer network regarding usage of a welding consumable (*see e.g.*, pg. 21, line 11, item 1110); obtaining information regarding inventory level of the welding consumable (*see e.g.*, pg. 21, ll.16-17, item 1130); obtaining information regarding a welding vendor managed replenishment contract (*see e.g.*, pg. 21, ll.17-18, item 1140); determining whether the inventory level of the welding consumable has fallen below a threshold ordering level (*see e.g.*, pg. 21, ll.18-22, item 1150); and transmitting a reorder of the welding consumable (*see e.g.*, pg. 21, ll.25-27, item 1180).

M. Independent Claim 54

Independent claim 54 recites a system for communicating a signal between a welder and a remote system, comprising: a welder comprising a consumable(s) monitor that communicates information regarding welding consumable(s) usage *via* a signal (*see e.g.*, pg. 9, line 10-pg. 10, line 3, items 210, 220, 230, 240); and a remote system that facilitates management of welding consumable(s) for the welder based at least in part upon information received from the consumable(s) monitor *via* the signal (*see e.g.*, pg. 10, ll.15-22, item 230). (*See also*, pg. 6, line 29 – pg. 9, line 6; pg. 9, line 16 – pg. 10, line 23; pg. 11, ll. 3-20; pg. 16, line 13 – pg. 19, line 18; FIGS. 1-3, 7, illustrating various aspects).

VI. Grounds of Rejection to be Reviewed (37 C.F.R. § 41.37(c)(1)(vi))

- A. Whether claims 37-44 are unpatentable under 35 U.S.C. §101 as being directed to non-statutory matter.
- B. Whether claims 37-44 are unpatentable under 35 U.S.C. §112, paragraph 2 as being indefinite.

- C. Whether claims 1-9, 12, 15, 16, 21-23, 25-27, 32, 33, 35, 37, and 54 are unpatentable under 35 U.S.C. §103(a) over B.J. Bennett, “Using a microcomputer in costing and selling” in view of Dialog File 148, “Retrospective”.
- D. Whether claims 10, 11, 17-19, and 36 are unpatentable under 35 U.S.C. §103(a) over B.J. Bennett, “Using a microcomputer in costing and selling” in view of Dialog File 148, “Retrospective”, and further in view of Tarr, *et al.* (US 5,184,179).
- E. Whether claims 13, 14, and 34 are unpatentable under 35 U.S.C. §103(a) over B.J. Bennett, “Using a microcomputer in costing and selling” in view of Dialog File 148, “Retrospective”, and further in view of Official Notice.
- F. Whether claims 20 and 28-31 are unpatentable under 35 U.S.C. §103(a) over B.J. Bennett, “Using a microcomputer in costing and selling” in view of Dialog File 148, “Retrospective”, and further in view of Sekizawa (US 6,681,349 B2).
- G. Whether claim 24 is unpatentable under 35 U.S.C. §103(a) over B.J. Bennett, “Using a microcomputer in costing and selling” in view of Dialog File 148, “Retrospective”, and further in view of Manchala, *et al.* (US 6,640,178 B1).
- H. Whether claims 38 and 40-42 are unpatentable under 35 U.S.C. §103(a) over B.J. Bennett, “Using a microcomputer in costing and selling”.
- I. Whether claims 39, 43, 45, 46, 48-53 and 55-57 are unpatentable under 35 U.S.C. §103(a) over B.J. Bennett, “Using a microcomputer in costing and selling” in view of Manchala, *et al.* (US 6,640,178 B1).

- J. Whether claims 44 and 47 are unpatentable under 35 U.S.C. §103(a) over B.J. Bennett, “Using a microcomputer in costing and selling” in view of Manchala, *et al.* (US 6,640,517 B1) and further in view of Official Notice.

VII. Argument (37 C.F.R. § 41.37(c)(1)(vii))

A. Rejection of Claims 37-44 Under 35 U.S.C. §101

Claims 37-44 stand rejected under 35 U.S.C. §101 because the Examiner alleges the subject claims are directed to non-statutory subject matter. Reversal of this rejection is respectfully requested for at least the following reasons. The instant claims produce a useful, concrete and tangible result. Moreover, 35 U.S.C. § 101 does not require that “machines”, “systems” or components of “machines” or “systems” be structural or physical components. Further, contrary to the Examiner’s assertions, the claimed subject matter does in fact recite physical structure.

Title 35, section 101, explains that an invention includes “any new and useful process, machine, manufacture or composition of matter.”... Without question, *software code alone qualifies as an invention eligible for patenting under these categories*. *Eolas Techs., Inc. v. Microsoft Corp.*, 399 F.3d 1325, 1338-39 (Fed. Cir. 2005) (holding that 35 U.S.C. §101 did not limit “machines” or components of “machines” to *structural or physical* components. *Rather, every component, including software components, of every form of invention deserves the protection of §271(f) because it is patentable subject matter under 35 U.S.C. §101*).

At page 22 of the Final Office Action (dated February 3, 2006), the Examiner incorrectly attempts to limit the holding of *Eolas* to only method claims and articles of manufacture claims. However, *Eolas* expressly held that neither the statute nor the legislative history limits *components of machines* to something that is physical. *See id* at page 1340. Accordingly, the Examiner’s argument that “applicants have claimed a ‘system’ comprising nothing more than computer code [and is therefore not patentable subject matter because there is nothing physical recited]” is in err and in direct contradiction to the CAFC. Moreover, the aforementioned statement is also in err because it improperly construes the claimed subject matter as only three

“software” “components” (see Final Office Action, pg. 3), whereas the instant claims cannot be so construed. In particular, independent claim 37 does not recite the term “component” which the Examiner relies upon to argue there is no physical structure. More particularly, independent claims 37, 38 and 43 all recite at least one of the following constituents: a welder, a remote system and welding consumable(s), none of which can be construed as “merely software” or “lacking anything physical.” For at least the foregoing reasons this rejection of independent claims 37, 38 and 43, as well as the associated dependent claims, should be reversed.

B. Rejection of Claims 37-44 Under 35 U.S.C. §112

Claims 37-44 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which appellants regards as the invention. Reversal of this rejection is respectfully requested for at least the following reasons. The subject claims particularly point out and distinctly claim the subject matter which the appellants regard as the invention.

In particular, the subject claims recite a “system” in which the specification portion of the disclosure describes in full, clear, concise, and exact terms. One skilled in the art will readily ascertain a manner in which the claimed system can be used. At page 4 of the Final Office Action, the Examiner indicates that this rejection is based upon the 35 U.S.C. § 101 rejection above. The Examiner’s rationale is that since a software component cannot be a “system” or a component of a “system”, the claimed system is indefinite. As stated *supra*, contrary to the Examiner’s assertions, a system need not contain physical structure. (See *id.*). Rather, a system claim can be comprised of software components (e.g., components of a machine). Moreover, the instant claims recite at least one of a welder, a remote system and welding consumable(s), which do not lack physical characteristics. Accordingly, it is readily apparent that the claims are not indefinite, and this rejection of claims 37-44 should be reversed.

C. Rejection of Claims 1-9, 12, 15, 16, 21-23, 25-27, 32, 33, 35, 37, and 54 Under 35 U.S.C. §103(a)

Claims 1-9, 12, 15, 16, 21-23, 25-27, 32, 33, 35, 37, and 54 stand rejected under 35 U.S.C. §103(a) as being unpatentable over B.J. Bennett, “Using a microcomputer in costing and selling” (hereinafter referred to as “Bennett”) in view of Dialog File 148, “Retrospective”

(hereinafter referred to as “Dialog”). Reversal of this rejection is respectfully requested for at least the following reasons. Bennett and Dialog, either alone or in combination, do not teach or suggest all of the features set forth in the subject claims. Moreover, Bennett and Dialog are not enabling disclosures and, further, there is no motivation to combine Dialog with Bennett.

To reject claims in an application under §103, an examiner must establish a *prima facie* case of obviousness. A *prima facie* case of obviousness is established by a showing of three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) ***must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must be found in the prior art and not based on the Applicants’ disclosure.*** See *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The claimed subject matter relates to a system and method for managing welding consumables. In particular, independent claim 1 (and similarly independent claims 21 and 54) recites, “a welder comprising ***a consumable(s) monitor that transmits welding consumable(s) information***; and a remote system that interfaces ***to the welder via a computer network***, the remote system facilitates ***management of welding consumable(s)*** for the welder based at least in part upon information received from the consumable(s) monitor.” The cited references alone or when combined fail to teach or suggest all the claim features.

Bennett discloses two embodiments of hardware and software for use with the same portable microcomputer, a first phase device and a second phase device (*i.e.*, the “Parameter Box”). The first phase device stores a series of parameters (*see* pg. 343, ll. 11-15), but does not teach or suggest that it monitors these parameters or that it monitors consumables. Rather, the first phase device calculates costing information utilizing data ***entirely provided via the keyboard*** (*i.e.*, based ***entirely*** upon user inputted values of the selected parameters). (*See* pg. 342, ll. 42-45; pg. 343, ll. 15-16). In essence, the first phase device is a calculator programmed with an algorithm to output costing information based entirely upon user input from the keyboard of the given parameters. These parameters are not monitored by the device, but instead the final values

are input *via* the keyboard. Accordingly, it is readily apparent that the first phase device does not teach or suggest a welder comprising ***a consumable(s) monitor that transmits welding consumable(s) information***, and need not be discussed further.

Bennett also discloses a second phase device that is the next generation of the first phase device. The “Parameter Box” (*i.e.*, the second phase device) is similar to the first phase device in that it is designed to be interfaced to and software compatible with the same host computer (of the portable microcomputer that can house either phase of the device). (*See* pg. 344, ll. 9-11). Another similarity between the first phase device and the “Parameter Box” is that virtually all parameters are supplied *via* the keyboard. (*See* pg. 344, ll. 13-20). However, unlike the first phase device, the “Parameter Box” can be used to monitor the weld process semi-automatically. (*See* pg. 342, ll. 45-47). In particular, a “device” can be used to measure a single welding consumable, which is the amount of wire consumed (*see* pg. 343, ll. 40-44), but all others must be input by a user *via* the keyboard. The “device” is a rotary impulse transducer wherein the “wire consumed” is a simple count which must be converted to a figure of actual wire length consumed. (*See* pg. 344, ll. 39-41). The “device” delivers data to the “Parameter Box” along a standard RS232 interface (*see* pg. 343, line 47-pg. 343, line 1), where “a lot of processing is done” (*see* pg. 344, line 37).

In essence, the Examiner argues that the transducer (*i.e.*, the “device”) is the consumable(s) monitor of the subject claims, that the “Parameter Box” is the remote system and that the RS232 interface is the computer network. (*See* Final Office Action, pgs.5-6) However, the remote system (*e.g.*, “Parameter Box”) does not interface ***to the welder*** as recited in the subject claims, but rather interfaces to the transducer. Therefore, assuming *arguendo* that a “Parameter Box” is a remote system, Bennett still does not teach or suggest *a remote system that interfaces to the welder*, but instead teaches *a remote system that interfaces to the transducer*. Dialog does not make up for these deficiencies found in Bennett. Accordingly, Bennett, alone or when combined, fails to teach or suggest all the claim limitations, and for at least the foregoing reasons this rejection should be reversed.

Furthermore, the “Parameter Box” interfaces the transducer by way of a RS232 connection. RS232 is not ***a computer network***, but rather a serial connection that does not define elements such as character encoding, framing of characters, bits per character, start/stop bits, bit parity, *etc.*, at least a subset of which are necessary for a computer network. Thus, Bennett does

not teach or suggest a remote system that interfaces to the welder *via a computer network*, but instead discloses *via an RS232 connection*, which is materially distinct from a computer network. More particularly, the specification portion of appellants' disclosure describes a network (both local and remote) that can employ certain protocols and standards (*see e.g.*, pg. 6, line 29 – pg. 7, line 4; pg. 9, ll. 16-22), all of which an RS232 connection is incapable of employing.

At page 5 of the Final Office Action, the Examiner argues that Dialog can be employed to remedy these latter shortcomings of Bennett with respect to failing to teach or suggest a computer network. However, Dialog is a non-enabling reference for the aspects upon which it is relied. Dialog discloses transmitting data for the purpose of monitoring the quality of welds *via* the Internet. However, the reference does not enable or otherwise explain how to monitor the quality of welds *via* the Internet. Thus, the reference is non-enabling with respect to monitoring the quality of welds *via* the Internet because these features are only named or described. Merely naming or describing the said monitoring is insufficient to provide an enabling disclosure (*See Elan Pharm., Inc. v. Mayo Found. For Med. Educ. & Research*, 346 F.3d 1051, 1054, 68 USPQ2d 1373, 1376 (Fed. Cir. 2003)). Therefore, Dialog is an improper reference and is not permissibly combinable with Bennett in the manner the Examiner suggests.

Further still, the Examiner has impermissibly employed hindsight analysis in order to locate a reference that discloses “a remote system that interfaces to the welder *via a computer network*”. As conceded at page 6 of the Final Office Action, Bennett does not disclose these features, yet the Examiner attempts to reference Dialog to make up for this deficiency. Dialog discloses transmitting data for the purpose of monitoring the *quality* of welds *via* the Internet, whereas Bennett is directed toward costing analysis and does not disclose, teach or suggest the ability the necessary equipment, or a purpose to be met by monitoring the *quality* of welds. The motivation to combine these references supplied at page 6 of the Final Office Action is “to remotely monitor the status of a weld”. However, since neither Bennett nor Dialog teach, suggest and/or enable how to monitor the quality of welds, the stated motivation to combine fails on its face. Additionally, Bennett discloses that a simple count can be transmitted by a transducer to the “Parameter Box” *via* an RS232 connection. Moreover, one skilled in the art would not be motivated to upgrade an RS232 serial connection to a more extensive

communication network (such as the Internet, named in Dialog) when the data sought to be transmitted is a simple count from a transducer.

Still further yet, the “Parameter Box” outputs projected costing results to an LCD or to a large television screen (*see* pg. 344, ll. 34-36), but does not facilitates ***management of welding consumable(s)***. The Examiner incorrectly argues that these features are taught simply because the reference implies that the output produced by the “Parameter Box” (*see* Fig. 1) can be employed by a “welding engineer to present a clear case to purchasing department.” Presenting a clear case to purchasing department is materially distinct from ***management of welding consumable(s)***. Moreover, even if presenting a clear case to purchasing department were sufficient to teach or suggest management of welding consumable(s), such a proposition necessarily implies it is the purchasing department that facilitates the management, and the *purchasing department is not the remote system that interfaces to the welder* as recited in the subject claims. Furthermore, the management of a consumable is ***based at least in part upon information received from the consumable(s) monitor***, whereas the Examiner ostensibly suggests that the hypothetical management is a result of the presentation of a clear case by the welding engineer. However, the welding engineer is not a consumable(s) monitor of a welder, so the Examiner’s analysis fails in yet another way.

Appellants’ representative further submits that Bennett is non-enabling with respect to converting a simple count to a figure of actual wire length consumed because this capability is only named. For example, none of the parameters input *via* the keyboard (*see* pg. 343, ll. 17-29; pg. 344, ll. 14-20) or what is stored in CMOS RAM (*see* pg. 343, ll. 7-16) can be used to determine how this is done. Merely naming or describing the said conversion is insufficient to provide an enabling disclosure. (*See id.*). Therefore, Bennett effectively teaches a transducer that transmits *a simple count* but does not teach or suggest a consumable(s) monitor that transmits *welding consumable(s) information*. A simple count is patentably distinct from welding consumable(s) information. Furthermore, Bennett is not an enabling disclosure with respect to ***management of welding consumable(s) for the welder*** because these aspects are not even named or described, but rather hypothesized by the Examiner on the basis that certain costing estimates can be calculated and output to an LCD from which a human actor, *e.g.*, in the purchasing department, might decide to take some action. Accordingly, the Examiner has failed to make a *prima facie* case of obviousness and this rejection should be reversed.

Dependent claim 22

The claimed subject matter further relates to multiple-systems and multiple networks for managing welding consumables, determining ordering levels and ordering consumable(s). In particular, independent claim 21 recites, “***a local system*** operatively coupled to the welder ***via a first computer network***.” Dependent claim 22 recites, “***a remote system*** operatively coupled to the local system ***via a second computer network***.” As described *supra*, Bennett does not disclose even a single ***computer network*** (but rather an RS232 connection that lacks the capabilities to implement a computer network), let alone a first computer network and a second computer network. Moreover, the Examiner is implicitly relying upon the “Parameter Box” to represent both the local system and the remote system of the subject claims. (See Final Office Action, Page 9). The “Parameter Box” cannot be the local system because it is not ***operatively couple to the welder***, and certainly cannot simultaneously be both the local system and the remote system that is ***operatively coupled to the local system via a second computer network***. Accordingly, this rejection with respect to dependent claim 22 should be reversed.

Claims 2 and 37

The claimed subject matter further relates to a system for managing welding consumable(s) wherein ordering levels for a consumable can be determined and a welding consumable can be ordered. In particular, independent claim 37 recites, “***determining ordering levels for a consumable***.” Further, dependent claim 2 (and similarly independent claim 37) recites “***the remote system facilitates ordering and/or purchasing of a consumable*** based at least in part upon information received from the consumable(s) monitor.” The cited references alone or when combined fail to teach or suggest such claimed aspects of the subject invention.

Contrary to the Examiner’s contentions, Bennett does not teach or suggest ***determining ordering levels for a consumable***. At most, Bennett teaches that the length of wire consumed can be calculated (although appellants’ representative argues this is not enabled by the disclosure). Even so, the amount of wire consumed does not implicate the amount of wire remaining (especially considering no starting or inventory amount of wire is ever input or determined), much less an ***ordering level for a consumable***. Likewise, Bennett is silent with respect to ***the remote system facilitates ordering and/or purchasing of a consumable*** based at

least in part upon information received from the consumable(s) monitor. The Examiner again argues that presenting a clear case to the purchasing department is equivalent. (See Final Office Action, pg. 6). However, an engineer presenting a case to the purchasing department is materially distinct from *the remote system facilitates ordering and/or purchasing of a consumable*.

For at least the foregoing reasons, the Examiner has failed to make a *prima facie* case of obviousness. Based upon the aforementioned deficiencies of either or both of the references, the combination fails to teach or suggest all the claimed features of the instant claims. Accordingly, this rejection of independent claims 1, 21, 37 and 54, as well as all associated dependent claims, should be reversed.

D. Rejection of Claims 10, 11, 17-19 and 36 Under 35 U.S.C. §103(a)

Claims 10, 11, 17-19 and 36 stand rejected under 35 U.S.C. §103(a) as being unpatentable over B.J. Bennett, "Using a microcomputer is costing and selling" (hereafter referred to as "Bennett") in view of Dialog File 148, "Retrospective" (hereafter referred to as "Dialog") and further in view of Tarr, *et al.* (U.S. 5,184,179) (hereafter referred to as "Tarr"). Reversal of this rejection is respectfully requested for at least the following reasons. Bennett, Dialog, and Tarr either alone or in combination, do not teach or suggest all of the features set forth in the subject claims.

As detailed above, Bennett and Dialog fail to teach or suggest all the claimed features of independent claims 1 and 21 upon which the subject claims depend. Tarr, which relates to a system for monitoring a paper processing device, counting the number of papers processed and diagnosing malfunctions within the device, does not make up for these deficiencies. Thus, Bennett and Dialog when combined with Tarr fail to teach or suggest all the claimed aspect. Moreover, both Bennett and Dialog are non-enabling references as well as lacking any motivation to combine as detailed in Section C of this Reply. Accordingly, this rejection should be reversed.

E. Rejection of Claims 13, 14 and 34 Under 35 U.S.C. §103(a)

Claims 13, 14 and 34 stand rejected under 35 U.S.C. §103(a) as being unpatentable over B.J. Bennett, "Using a microcomputer is costing and selling" (hereafter referred to as "Bennett")

in view of Dialog File 148, “Retrospective” (hereafter referred to as “Dialog”) and further in view of Official Notice. Reversal of this rejection is respectfully requested for at least the following reasons. Bennett and Dialog, either alone or in combination, do not teach or suggest all of the features set forth in independent claims 1 and 21 upon which the instant claims depend. Official Notice does not remedy the shortcomings of the cited art, and this rejection should therefore be reversed.

In addition, dependent claim 13 recites, “information exchanged between the welder and the remote system includes at least one of HTML, SHTML, VB Script, JAVA, CGI Script, JAVA Script, dynamic HTML, ASP, ActiveX, XML, PDF, EDI and WML format.” Dependent claim 14 recites, “at least one of a LAN, a phone connection and a gateway to couple the welder and/or the remote system to the network.” At page 12 of the Final Office Action the Examiner takes Official Notice that it is old and well known in the art 1) to use HTML format to exchange information and, 2) to use a LAN connection to connect two or more devices. It is respectfully submitted that these Official Notices are not pertinent to the subject claims or to the Examiner’s rejection. For example, Bennett explicitly discloses a standard RS232 interface is employed and does not teach or suggest any reason why a more sophisticated interface might be used to transmit a simple count. An RS232 interface is a serial connection that cannot implement a LAN. Accordingly, this Official Notice is improper and duly traversed by appellants. For at least the foregoing reasons this rejection should be reversed.

F. Rejection of Claims 20 and 28-31 Under 35 U.S.C. §103(a)

Claims 20 and 28-31 stand rejected under 35 U.S.C. §103(a) as being unpatentable over B.J. Bennett, “Using a microcomputer is costing and selling” (hereafter referred to as “Bennett”) in view of Dialog File 148, “Retrospective” (hereafter referred to as “Dialog”) and further in view of Sekizawa (U.S. 6,681,349 B2). Reversal of this rejection is requested for at least the following reasons. Bennett, Dialog, and Sekizawa either alone or in combination, do not teach or suggest all of the features set forth in the subject claims.

As detailed *supra*, Bennett and Dialog fail to teach or suggest all the claimed features of independent claims 1 and 21 upon which the subject claims depend. Sekizawa which relates to monitoring the state of a printer does not make up for these deficiencies. Accordingly, the

combination of Sekizawa is insufficient to remedy to the shortcomings of Bennett and Dialog and reversal of this rejection is respectfully requested.

G. Rejection of Claim 24 Under 35 U.S.C. §103(a)

Claim 24 stands rejected under 35 U.S.C. §103(a) as being unpatentable over B.J. Bennett, "Using a microcomputer is costing and selling" (hereafter referred to as "Bennett") in view of Dialog File 148, "Retrospective" (hereafter referred to as "Dialog") and further in view of Manchala, *et al.* (U.S. 6,405,178 B1) (hereafter referred to as "Manchala"). Bennett, Dialog, and Manchala either alone or in combination, do not teach or suggest all of the features set forth in the subject claims.

Dependent claim 24 recites (relying upon base claims 22 and 21), "***a local system*** operatively coupled to the welder ***via a first computer network ... a remote system*** operatively coupled to the local system ***via a second computer network ... the local system initiates orders from the remote system*** based at least in part upon information received from the consumable(s) monitor. Neither Bennett nor Dialog, alone or when combined teach or suggest there features. The Examiner incorrectly argues that Bennett teaches a local system and a remote system, but expressly indicates the "Parameter Box" is simultaneously both these systems. Such analysis is impermissible. Moreover, Bennett discloses a single RS232 connection, which is materially deficient to represent a computer network, much less ***a first and a second*** computer network, as is the Examiner's contention. Manchala, which relates to a system for automatically ordering consumables for a printer does not remedy the aforementioned shortcomings with respect to the combination of Bennett and Dialog.

Furthermore, as the Examiner concedes at page 14 of the Final Office Action, Bennett and Dialog do not teach or suggest ***the local system initiates orders from the remote system*** based at least in part upon information received from the consumable(s) monitor. Manchala is referenced to teach initiating purchase orders for a consumable for a printer such as toner or paper. (*See* col. 2, ll. 35-40). However, even if Manchala teaches initiating orders, it does not teach ***a local system operatively coupled to the welder***. Hence, Manchala does not teach or suggest ***the local system initiates orders*** from the remote system. That Manchala can initiate orders is insufficient to read upon the structure/apparatus of the instant claim, *i.e.*, initiating orders for printer toner does not teach or suggest the structure of a system that initiates orders for

a welding consumable. Bennett and Dialog also fail to teach or suggest such features. Accordingly, the references, even when combined, are materially deficient, and this rejection should be reversed.

H. Rejection of Claims 38 and 40-42 Under 35 U.S.C. §103(a)

Claims 38 and 40-42 stand rejected under 35 U.S.C. §103(a) as being unpatentable over B.J. Bennett, “Using a microcomputer is costing and selling” (hereafter referred to as “Bennett”). It is requested that this rejection be reversed for at least the following reasons. Bennett does not teach or suggest all of the features set forth in the subject claims.

Independent claim 38 recites, “a consumable monitor component ... a customer component that ... facilitate *welding resource management* ... and a supplier component that receives information from the customer component to facilitate *purchasing and/or ordering of welding consumable(s)*.” As with the rejections of claims 1, 2, 21, 22 and 24 above, the Examiner again argues at page 15 of the Final Office Action that Bennett discloses all the components recited in the subject claims. Accordingly, this rejection of independent claim 38 and dependent claims 40-42 should be reversed for at least the same reasons detailed regarding the rejection of aforementioned claims. In particular, appellants’ representative again respectfully submits that the “Parameter Box” of Bennett cannot be the customer component because it does not facilitate *welding resource management* but rather outputs results to an LCD, which is materially distinct. Secondly, Bennett does not disclose or teach any element that can be likened to the supplier component because Bennett does not teach or suggest 1) purchasing and/or ordering of welding consumable(s); and 2) a component that receives information from the “Parameter Box” even if it is deemed identical to the customer component.

The Examiner clearly indicates that at page 15 of the Final Office Action that his analysis relies on construing a human actor as a component of a machine. That is, the Examiner argues that a “welding engineer” in communication with “purchasing department” constitutes a *supplier component* of the subject claims. Such analysis is impermissible and this rejection should be reversed.

I. Rejection of Claims 39, 43, 45, 46, 48-53 and 55-57 Under 35 U.S.C. §103(a)

Claims 39, 43, 45, 46, 48-53 and 55-57 stand rejected under 35 U.S.C. §103(a) as being unpatentable over B.J. Bennett, "Using a microcomputer is costing and selling" (hereafter referred to as "Bennett") in view of Manchala, *et al.* (U.S. 6,405,178 B1, hereinafter referred to as "Manchala"). Reversal of this rejection is respectfully requested for at least the following reasons. As described *supra*, Bennett fails to teach or suggest all the claimed features upon which the Examiner relies to set forth this rejection. The combination of Manchala does not remedy the aforementioned deficiencies with respect to Bennett. Moreover, Manchala is non-analogous art and/or there is no motivation to combine Manchala with Bennett in the manner the Examiner suggests because the combination would require substantial reconstruction and redesign requiring the use of hindsight to arrive at claimed subject matter.

Claim 39

Claim 39 depends from independent claim 38, which is believed to be allowable for at least the reasons discussed *supra*. Manchala does not make up for the aforementioned deficiencies of Bennett. Accordingly, the Examiner has failed to make a *prima facie* case for obviousness regarding this claim.

Independent claim 43

At pages 17 and 18 of the Final Office Action, the Examiner argues that Bennett discloses 1) a consumable monitor, 2) an aggregation component...that receives welding information from the consumable monitor, and 3) a supplier component that receives the consumable reorder to facilitate purchasing and/or ordering of welding consumable(s). However, Bennett discloses none of these elements as recited in the claims and detailed above. For at least the reasons submitted with respect to claims 1, 2, 21, 22 and 24, Bennett fails to teach or suggest all the claim features of independent claim 43 and Manchala is insufficient to remedy these shortcomings.

Furthermore, the Examiner incorporates the teachings of Manchala which describe components for *printers*, to represent five additional structural components for *welders*. The Examiner seeks to suggest that because Manchala can, *e.g.*, monitor how much printer toner is left in a printer, therefore the combination with Bennett transforms this functionality as well as

the printer components to functionality for welders and welding components, respectively. It is respectfully submitted that appellants do not broadly claim the monitoring of consumables, but rather monitoring *consumable usage and/or consumable status of a welder*. Neither Bennett nor Manchala teach or suggest the components recited in the instant claim that relate to monitoring *consumable usage and/or consumable status of a welder*. Accordingly, the combination of these references cannot be said to do so either.

In addition, to suggest the combination of five additional printer components with Bennett, of which Bennett does not teach or suggest the hardware or software capabilities to incorporate is improper even if there were some reasonable motivation to do so. For example, Bennett teaches a battery operated portable microcomputer with sufficient CMOS RAM such that the software could be left resident in the machine (*see* pg. 343, ll. 7-8), which is about 16 kilobytes of CMOS RAM. (*See* pg. 344, ln. 31). Bennett does not teach or suggest more sophisticated types of RAM storage or hardware component necessary to employ the teachings of Manchala, *et al*. Thus, to incorporate the teachings of Manchala into Bennett would require substantial reconstruction or redesign of the storage capabilities of the portable microcomputer as well as the addition of five structural components the Examiner purports are taught in Manchala.

Moreover, Manchala is directed toward an *electronic commerce enabled* purchasing system for a *printer*, whereas Bennett expressly teaches providing a local LCD or TV display or a *hardcopy* 40-column printout of costing results from *welding equipment* (*see* pg. 343, ll. 33-34). Hence, incorporating Manchala with Bennett would require substantial reconstruction and redesign as well as change the principle of operation of the reference being modified (*e.g.*, the principal operation of a local output or display versus an e-commerce system). Thus, the teachings of the references are not sufficient to render the claims *prima facie* obvious. (*See* MPEP § 2143.01(VI), “the suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate”). Accordingly, this rejection of independent claim 43 should be reversed.

Claims 45, 46, 48-53 and 55-57

Claims 45, 46, 48-53 and 55-57 are believed to be allowable for at least the reasons discussed above. Neither Bennett nor Manchala, alone or when combined, disclose, teach or

suggest all the claim features of the subject claims. Accordingly, appellants' representative requests that the Board reverse this rejection.

J. Rejection of Claims 44 and 47 Under 35 U.S.C. §103(a)

Claims 44 and 47 stand rejected under 35 U.S.C. §103(a) as being unpatentable over B.J. Bennett, "Using a microcomputer is costing and selling" (hereafter referred to as "Bennett") in view of Manchala, *et al.* (U.S. 6,405,178 B1, hereafter referred to as "Manchala") in view of Official Notice. Reversal of this rejection is respectfully requested for at least the following reasons. Bennett and Manchala, either alone or in combination, do not teach or suggest all of the features set forth in independent claims 43 and 44 upon which the subject claims depend. Official Notice does not remedy the shortcomings of the cited art and is therefore moot. Accordingly, this rejection should be reversed.

K. Conclusion

For at least the above reasons, the claims currently under consideration are believed to be patentable over the cited references. Accordingly, it is respectfully requested that the rejections of claims 1-57 be reversed.

If any additional fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [LINCP105US].

Respectfully submitted,

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VIII. Claims Appendix (37 C.F.R. § 41.37(c)(1)(viii))

1. A system for managing welding consumable(s), comprising:
a welder comprising a consumable(s) monitor that transmits welding consumable(s) information; and
a remote system that interfaces to the welder *via* a computer network, the remote system facilitates management of welding consumable(s) for the welder based at least in part upon information received from the consumable(s) monitor.
2. The system of claim 1, the remote system facilitates ordering and/or purchasing of a consumable based at least in part upon information received from the consumable(s) monitor.
3. The system of claim 2, the consumable is at least one of wire, gas, flux, contact tip and consumable electrode.
4. The system of claim 3, the wire is used for at least one of gas metal arc welding, flux cored arc welding, metal cored arc welding, submerged arc welding, narrow groove welding, hot wire filled TIG welding, cold wire filled TIG welding, plasma arc welding, electron beam and laser welding, and hardface welding.
5. The system of claim 3, the consumable electrode is used for at least one of arc gauging and manual shielded arc welding.
6. The system of claim 2, the ordering and/or purchasing of the consumable is further based at least in part upon a customer ordering model stored on the remote system.
7. The system of claim 2, the ordering and/or purchasing of the consumable is further based at least in part upon a vendor managed replenishment contract.
8. The system of claim 7, ownership of the consumable(s) remains with a supplier, distributor and/or manufacturer until the consumable(s) has been used by a customer.

9. The system of claim 1, the welder is leased to a customer and enforcement of the lease is performed at least in part based upon information received from the consumable(s) monitor.
10. The system of claim 1, the remote system enforces at least one of welding equipment and welding software maintenance, a welding service or a welding upgrade contract, and terms that a maintenance fee is waived or reduced if order and usage requirement of welding consumable(s) is met.
11. The system of claim 1, a customer is invoiced by the remote system for consumables based at least in part upon information received from the consumable(s) monitor.
12. The system of claim 1, the network employs at least one of Ethernet, Wireless Ethernet, PPP (point-to-point protocol), point-to-multipoint short-range RF (Radio Frequency), WAP (Wireless Application Protocol), Bluetooth, IP, IPv6, TCP, User Datagram Protocol (UDP), PPTP (Point-to-Point Tunneling Protocol), L2TP (Layer Two Tunneling Protocol), IPsec (Internet Protocol Security) and SOCKS.
13. The system of claim 1, information exchanged between the welder and the remote system includes at least one of HTML, SHTML, VB Script, JAVA, CGI Script, JAVA Script, dynamic HTML, ASP, ActiveX, XML, PDF, EDI and WML format.
14. The system of claim 1, further comprising at least one of a LAN, a phone connection and a gateway to couple the welder and/or the remote system to the network.
15. The system of claim 1, the welder interfaces to the remote system *via* at least one of a local computer network, an extranet and the Internet.
16. The system of claim 1, the welder further comprises an arc/weld quality monitor providing information regarding weld quality to the remote system.

17. The system of claim 16, a customer is invoiced by the remote system for consumable(s) based at least in part upon information regarding weld quality received from the arc/weld quality monitor.
18. The system of claim 17, the remote system tracks patterns of usage of welding consumable(s) and/or welding consumable(s) inventory level(s).
19. The system of claim 17, the remote system facilitates Just-In-Time (JIT) welding consumable(s) raw material inventory management to achieve low inventory and/or high service level objectives in production.
20. The system of claim 1, the remote system, at least based in part upon information received from the consumable(s) monitor, performs enterprise resource planning, production capacity planning and/or welding consumable(s) forecast planning by a welding consumable(s) manufacturer, distributor and/or supplier.
21. A system for managing welding consumable(s), comprising:
 - a welder comprising a consumable(s) monitor that sends welding consumable(s) information; and
 - a local system operatively coupled to the welder *via* a first computer network, the local system facilitates management of welding consumable(s) for the welder based at least in part upon information received from the consumable(s) monitor.
22. The system of claim 21, further comprising a remote system operatively coupled to the local system *via* a second computer network, the remote system facilitates management of welding consumable(s) for the welder.
23. The system of claim 22, the second network is at least one of a local computer network, an extranet and the Internet.

24. The system of claim 22, the local system initiates orders from the remote system based at least in part upon information received from the consumable(s) monitor.
25. The system of claim 24, the consumable is at least one of wire, gas, flux, contact tip and consumable electrode.
26. The system of claim 25, the wire is used for at least one of gas metal arc welding, flux cored arc welding, metal cored arc welding, submerged arc welding, narrow groove welding, hot wire filled TIG welding, cold wire filled TIG welding, plasma arc welding, electron beam and laser welding, and hardface welding.
27. The system of claim 25, the consumable electrode is used for at least one of arc gauging and manual shielded arc welding.
28. The system of claim 21, the local system further comprises at least one of a production control system, a financial accounting system and a materials management system.
29. The system of claim 28, the production control system, at least based in part upon information received from the consumable(s) monitor, performs production capacity planning and/or welding consumable(s) forecast planning.
30. The system of claim 28, the financial accounting system, at least based in part upon information received from the consumable(s) monitor,
31. The system of claim 28, the materials management system, at least based in part upon information received from the consumable(s) monitor, performs welding consumable(s) inventory management and/or welding consumable(s) procurement.
32. The system of claim 21, the first network is at least one of a local computer network, an extranet and the Internet.

33. The system of claim 21, the first network and/or the second network employs at least one of Ethernet, Wireless Ethernet, PPP (point-to-point protocol), point-to-multipoint short-range RF (Radio Frequency), WAP (Wireless Application Protocol), Bluetooth, IP, IPv6, TCP, User Datagram Protocol (UDP), PPTP (Point-to-Point Tunneling Protocol), L2TP (Layer Two Tunneling Protocol), IPsec (Internet Protocol Security) and SOCKS.
34. The system of claim 21, information exchanged between the welder and the local system includes at least one of HTML, SHTML, VB Script, JAVA, CGI Script, JAVA Script, dynamic HTML, ASP, ActiveX, XML, PDF, EDI and WML format.
35. The system of claim 22, the welder further comprises an arc/weld quality monitor providing information regarding weld quality to the local system and/or the remote system.
36. The system of claim 35, a customer is invoiced by the remote system for consumable(s) based at least in part upon information regarding weld quality received from the arc/weld quality monitor.
37. A system for managing welding consumable(s), comprising:
- means for interfacing a welder with a consumable(s) monitor that monitors the consumable(s) usage of the welder;
 - means for interfacing the consumable(s) monitor with a remote system;
 - means for determining ordering levels for a consumable; and
 - means for ordering a consumable based at least in part upon the monitored consumable usage.

38. A system for managing welding consumable(s), comprising:
- a consumable monitor component that monitors consumable usage and/or consumable status of a welder;
 - a customer component that interfaces the consumable monitor to facilitate welding resource management based at least in part upon information regarding consumable usage and/or consumable status received from the consumable monitor component; and
 - a supplier component that receives information from the customer component to facilitate purchasing and/or ordering of welding consumable(s).
39. The system of claim 38, the customer component further comprises at least one of a production control component, a financial accounting component and a materials management component.
40. The system of claim 38, the consumable monitored by the consumable monitor component is at least one of wire, gas, flux, contact tip and consumable electrode.
41. The system of claim 40, the wire is used for at least one of gas metal arc welding, flux cored arc welding, metal cored arc welding, submerged arc welding, narrow groove welding, hot wire filled TIG welding, cold wire filled TIG welding, plasma arc welding, electron beam and laser welding, and hardface welding.
42. The system of claim 40, the consumable electrode is used for at least one of arc gauging and manual shielded arc welding.

43. A system for managing welding consumable(s), comprising:
- a consumable monitor component that monitors consumable usage and/or consumable status of a welder;
 - an aggregation component for aggregating consumable usage that receives welding information from the consumable monitor;
 - an inventory replenishment component that receives information from the aggregation component;
 - a procurement management component that receives information from the aggregation component and to determine, at least based in part upon inventory data, forecast data and/or information associated with a vendor managed replenishment contract, whether to initiate reordering of the consumable;
 - a reorder proposal component for generating a reorder proposal once the procurement management component has initiated reordering of the consumable;
 - an authorization component that receives authorization for the reorder proposal received from the reorder proposal component;
 - a reorder transmittal component for transmitting a consumable reorder; and
 - a supplier component that receives the consumable reorder to facilitate purchasing and/or ordering of welding consumable(s).
44. The system of claim 43, the consumable reorder is transmitted by the reorder transmittal component *via* EDI or XML.
45. A method for managing welding consumable(s), comprising:
- receiving information from a consumable(s) monitor *via* a computer network regarding consumable usage of a welder;
 - determining whether supply of a welding consumable has fallen below ordering threshold; and
 - ordering the welding consumable based at least in part upon the information received regarding the consumable usage.

46. The method of claim 45, further comprising aggregating information regarding the consumable usage.
47. The method of claim 45, further comprising aggregating information regarding the consumable ordering.
48. A method for managing welding consumable(s), comprising:
receiving information from a consumable(s) monitor associated with a welder *via* a computer network regarding welding consumable usage; and
invoicing a customer for the welding consumable based at least in part upon the information received regarding the consumable usage.
49. A method for managing welding consumable(s), comprising:
receiving information from a monitor that evaluates consumable(s) related to a welder *via* a computer network regarding consumable usage;
receiving information regarding weld quality; and
invoicing a customer for the consumable based at least in part upon the information received regarding the consumable usage and the weld quality.
50. A method for managing welding consumable(s), comprising:
receiving information from a consumable(s) monitor associated with a welder *via* a computer network regarding usage of a welding consumable;
obtaining information regarding inventory level of the welding consumable;
obtaining information regarding a welding vendor managed replenishment contract;
determining whether the inventory level of the welding consumable has fallen below a threshold ordering level; and
transmitting a reorder of the welding consumable.
51. The method of claim 50, further comprising at least one of:
aggregating information regarding consumable(s) usage; and
obtaining authorization for the reorder of the consumable.

52. The method of claim 50, the act of determining whether the inventory level has fallen below the threshold ordering level is based at least in part upon at least one of a information provided in the vendor managed replenishment contract, supplier's lead time for the consumable, consumable forecast usage rate, consumable availability and consumable pricing data.
53. The method of claim 50, the threshold ordering level is updated continuously and in real-time from aggregated welding consumable(s) data, supplier's lead time for the consumable, availability of the consumable and /or consumable pricing data.
54. A system for communicating a signal between a welder and a remote system, comprising:
a welder comprising a consumable(s) monitor that communicates information regarding welding consumable(s) usage *via* a signal; and
a remote system that facilitates management of welding consumable(s) for the welder based at least in part upon information received from the consumable(s) monitor *via* the signal.
55. A computer-readable medium having computer-executable instructions that executes the method of claim 45.
56. A computer-readable medium having computer-executable instructions that executes the method of claim 48.
57. A computer-readable medium having computer-executable instructions that executes the method of claim 50.

IX. Evidence Appendix (37 C.F.R. §41.37(c)(1)(ix))

None.

X. Related Proceedings Appendix (37 C.F.R. §41.37(c)(1)(x))

None.